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PERSONALIZED REPORT FOR: **TIMEX SINCLAIR**

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* DISK DRIVE FOR THE TS 1000 SERIES

As many users know, one of the great shortcomings of the TS 1000 series computers is its dependence on cassettes for mass storage. Although cassettes are an inexpensive and reliable memory medium, they are fairly slow and can be very frustrating to work with. One way to solve that problem now comes via Compusa Corp. of Mountainside, New Jersey. The company supplies a standard 5-1/4 inch Shugart-compatible floppy disk system that works with the TS1000 and 1500 computers. Any size program can be stored on disk and loaded in only a couple of seconds. The system attaches to the back of the computer and requires no user constructions at all. It can be modified by changing various switches to work with single or double density disks as well as with Sony-type 3-1/2 inch disks. A single diskette will hold up to 210K bytes of programs or data. TS 1000/1500 disk drive system prices are: interface only, \$199; with single density drive, \$499; with double density drive, \$548. Compusa Corp., 1101 Bristol Rd., Mountainside, NJ 07092. 201/233-7200.

* SOFTWARE

I had an opportunity this month to review a software package that has actually been on the market for quite some time. I wish I'd found it long ago. It's called "Hot Z" and it's a machine language disassembler and editing/debugging utility. With it you can change a string of machine code instructions back into assembly language mnemonics, make simple changes to any memory location and, best of all, simulate the running of your code one step at a time. This last feature gives you the opportunity to step through your m/l program one instruction at a time while watching a display of the contents of all of the Z80 registers and stack. I've found Hot Z to be a very valuable tool in my work with machine language, and I recommend it to all. Hot Z, \$19.95. Sinware, Box 8032, Santa Fe, NM 87504.

* TRANSLATING THE DATA STATEMENT

A commonly found instruction in most versions of BASIC is DATA and its cohorts READ and RESTORE. For some reason Sinclair BASIC doesn't include them. This can cause problems for the user trying to translate a program from another machine to the T/S.

The Boston Computer Society's Sinclair Timex Newsletter published the following translation routine and we reprint it with their kind permission.

The DATA statement allows a programmer to define a list of numbers in his program. The READ statement retrieves these numbers one at a time, and assigns them to a variable. The RESTORE statement forces the READ to scan list from the beginning again.

In order to translate a program which has DATA statements, you must:

1. Include the following routine in your program:

```
500 LET DI=DI+1
510 IF D$(DI)="" "THEN GOTO 500
520 LET DJ=DI
530 LET DJ=DJ+1
535 IF DJ> LEN D$ THEN GOTO 550
```

```
540 IF D$(DJ) <> " " THEN GOTO 530
550 LET D=VAL D$(DI TO DJ-1)
560 LET DI=DJ
570 RETURN
```

2. Have a statement LET DI=0 somewhere near the beginning of your program (before doing any READs). Follow this by the DATA statement LET D\$="your data here". The data elements (i.e. numbers) are separated by blanks. For example, if the program being translated has DATA 5, 10.4, -3, 6.9E-10, then use LET D\$="5 10.4 -3 6.9E-10.

3. Replace RESTORE statements in the program by LET DI=0.

4. Finally, replace READ statements by GOSUB 500 followed by LET variable=D. For example, READ A becomes GOSUB 500 and LET A=D. Error 3 results if you read past the end of the data.

* CASSETTE HINTS

As I have said previously, cassettes can be a reliable mass storage medium if you follow a few hints which minimize the problems.

1. Always use a cassette recorder with a tape counter. Being able to quickly find the beginning of a program eliminates more aggravations than you'd think possible.

2. Keep your tapes in plastic tape boxes. Dust is one of the worst enemies of cassettes. Storing tapes in boxes will increase their life and decrease your frustration.

3. Write down the contents of your tapes on a separate sheet of paper or card. Write an identifying number on the cassette. Do not erase the writing on the cassette. It causes debris and gums up the works.

4. Be sure to create at least one backup of any important program or data on a separate cassette.

5. To save yourself and your tapes a lot of wear and tear, it's best to use only one side of the cassette. Fast forwarding and rewinding back and forth can stretch your tapes causing you to lose data.

These hints are excerpted from an article in the Boston Computer Society's Sinclair Timex Newsletter, November, 1983.

* TS 2068 HINT

One of the great improvements in the Timex Color Computer is the improved keyboard. You can make it even more user-friendly by making it beep with each keystroke. This is easily accomplished by typing POKE 23609,255. Now the computer will beep at each keystroke. Shorter beeps can be had by using a number smaller than 255. The beep disappears altogether by using 0. The largest number that can be used is 255.

* BULLETIN BOARD

An avid Sinclair computer hobbyist in San Francisco has started a computer bulletin board devoted to TS computing. By hooking up your modem and dialing 415/949-2563, you can access all sorts of Timex messages, hints and software. The bulletin board is open only from 8 a.m. to 10 p.m. Pacific time.

* BOOKS

- o The Timex/Sinclair 1000 Dictionary from Que (rhymes with new) is a handy reference book for TS1000/1500 BASIC and machine language programmers. The first half of the book contains a glossary of computer and BASIC terms with useful explanations for the beginner and advanced user alike. The second half is a detailed presentation of the architecture of the Z80 processor and a breakdown of the Z80 instruction set. I've found the book to be, overall, a handy reference that I now keep near my computer for easy access. Timex/Sinclair Dictionary, by Joseph C. Giarratano, 127 pages, Que Publishing, 7960 Castleway Drive, Indianapolis, IN 46250. 317/842-7162.